7

Departmental Accounts

Learning Objectives

After studying this chapter, you will be able to:

- Allocate common expenditures of the organization among various departments on appropriate basis.
- Deal with the inter-departmental transfers and their accounting treatment.
- Calculate the amount of unrealized profit on unsold inter-departmental stock-in-hand at the end of the accounting year.
- Work on problems based on inter-departmental transfers at profit and calculation of unrealized profit on the remaining stock at the end of the accounting year.

1. Introduction

If a business consists of several independent activities, or is divided into several departments, for carrying on separate functions, its management is usually interested in finding out the working results of each department to ascertain their relative efficiencies. This can be made possible only if departmental accounts are prepared. Departmental accounts are of great help and assistance to the managements as information for controlling the business more intelligently and effectively, since thereby all types of waste either of material or of money are readily detected; also attention is drawn to inadequacies or inefficiencies in the working of departments or units into which the business may be divided.

2. Advantages of Departmental Accounting

The main advantages of departmental accounting are as follows:

1. ***Evaluation of performance:*** The performance of each department can be evaluated separately on the basis of trading results. An endeavour may be made to push up the sales of that department which is earning maximum profit.
2. ***Growth potential of each department:*** The growth potential of a department as compared to others can be evaluated.

3. ***Justification of capital outlay:*** It helps the management to determine the justification of capital outlay in each department.
4. ***Judgement of efficiency:*** It helps to calculate stock turnover ratio of each department separately, and thus the efficiency of each department can be revealed.
5. ***Planning and control:*** Availability of separate cost and profit figures for each department facilitates better control. Thus effective planning and control can be achieved on the basis of departmental accounting information.

Basically, an organization usually divides the work in various departments, which is done on the principle of division of labour. This can improve efficiency of each and every department of the organization. Each department prepares its separate accounts to judge its individual performance.

3. Methods of Departmental Accounting

There are two methods of keeping departmental accounts:

3.1 Accounts of all departments are kept in one book only: To prepare such accounts, it will be necessary first, for the income and expenditure of department to be separately recorded in subsidiary books and then for them to be accumulated under separate heads in a ledger or ledgers. This may be done by having columnar subsidiary books and a columnar ledger. ***Under this system, the gross profit of individual department can be determined accurately.***

3.2 Separate set of books are kept for each department: A separate set of books may be kept for each department, including complete stock accounts of goods received from or transferred to other departments or as also sales.

Nevertheless, even when separate sets of books are maintained for different departments, it will also be necessary to devise a basis for allocation of common expenses among the different departments, if an organisation is interested in determining the separate departmental net profit in addition to the gross profit.

4. Basis of Allocation of Common Expenditure among different Departments

Expenses should be allocated among different departments on a rational basis while preparing departmental accounts.

Individual Identifiable Expenses: Expenses incurred specially for a particular department are charged directly thereto, *e.g.,* insurance charges of stock held by a department.

Common Expenses: Common expenses, the benefit of which is shared by all the departments and which are capable of precise allocation are distributed among the departments concerned on some equitable basis considered suitable in the circumstances of the case.

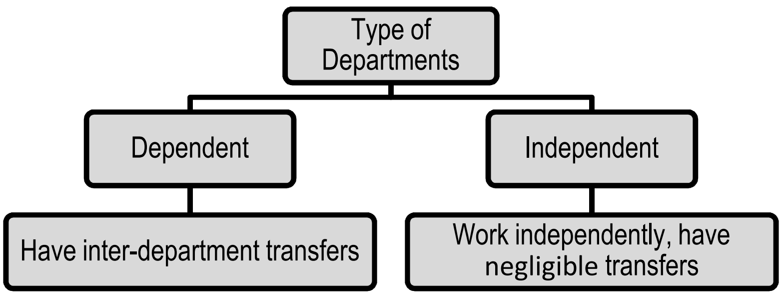
Allocation of Expenses

S.No.	*Expenses*	*Basis*
1.	Rent, rates and taxes, repairs and maintenance, insurance of building	Floor area occupied by each department (if given) other wise on time basis
2.	Lighting and Heating expenses (eg. energy expenses)	Consumption of energy by each department
3.	Selling expenses, *e.g.,* discount, bad debts, selling commission, freight outward, travelling sales manager's salary and other costs	Sales of each department
4.	Carriage inward/ Discount received	Purchases of each department
5.	Wages/Salaries	Time devoted to each department
6.	Depreciation, insurance , repairs and maintenance of capital assets	Value of assets of each department otherwise on time basis
7.	Administrative and other expenses, *e.g.,* salaries of managers, directors, common advertisement expenses, etc.	Time basis or equally among all departments
8.	Labour welfare expenses	Number of employees in each department
9.	PF/ESI contributions	Wages and salaries of each department

Note: *There are certain expenses and income, most being of financial nature, which cannot be apportioned on a suitable basis; therefore they are recognised in the combined Profit and Loss Account for example-interest on loan, profit/loss on sale of investment etc.*

5. Types of Departments

There are two types of departments.



5.1 Independent Departments: Departments which work independently of each other and have negligible inter department transfer are called Independent Departments.

5.2 Dependent Departments: Departments which transfer goods from one department to another department for further processing are called dependent departments. Here, the output of one department becomes the input for the other department. These transfers may be done at cost or some pre-decided selling price. The price at which this is done is known as transfer price. In these departments unloading is required if the transfer price is having profit element. The method of eliminating unrealized profit is being discussed in the succeeding para 6.2.

6. Inter-departmental Transfers

Whenever goods or services are provided by one department to another, their cost should be separately recorded and charged to the department benefiting thereby and credited to that providing it. The totals of such benefits should be disclosed in the departmental Profit and Loss Accounts, to distinguish them from other items of expenditure.

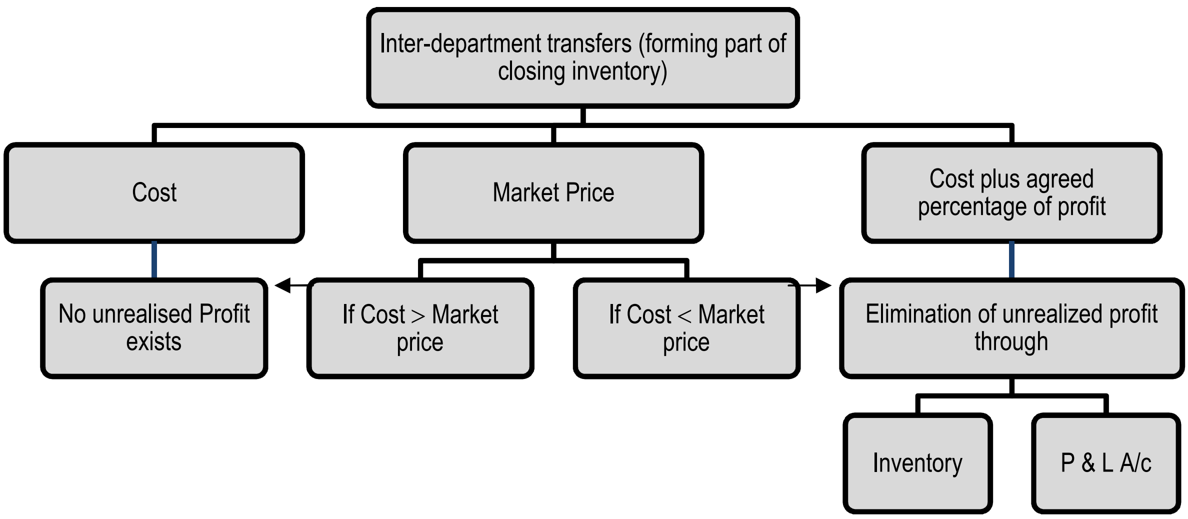
6.1 Basis of Inter-Departmental Transfers: Goods and services may be charged by one department to another usually on either of the following three bases:

(*i*) Cost,

(*ii*) Ruling market price,

(*iii*) Cost *plus* agreed percentage of profit.

6.2 Elimination of Unrealized Profit: When profit is added in the inter-departmental transfers the loading included in the unsold stock at the end of the year is to be excluded before final accounts are prepared so as to eliminate any anticipatory profit included therein.



6.3 Stock Reserve: Unrealized profit included in unsold inventory at the end of accounting period is eliminated by creating an appropriate stock reserve by debiting the combined Profit and Loss Account. The amount of stock reserve will be calculated as:

$$\frac{\text{Transfer price of unsold stock} \times \text{Profit included in transfer price}}{\text{Transfer price}}$$

6.4 Journal Entry: At the end of the accounting year, the following journal entry will be passed for elimination of unrealized profit (creation of stock reserve):

Profit and Loss Account Dr.

To Stock Reserve

(Being a provision made for unrealized profit included in closing inventory)

In the beginning of the next accounting year, the aforesaid journal entry will be reversed as under:

Stock Reserve Dr.

To Profit and Loss Account

(Being provision for unrealized profit reversed.)

6.5 Disclosure in Balance Sheet: The unsold closing inventory acquired from another department will appear on the assets side of the balance sheet as under:

(An extract of the assets side of the balance sheet)

Current assets	xxx
Inventory	xxx
Less: Stock reserve	xxx
	xxx

7. Memorandum Stock and Memorandum Mark up Account Method

Under this method, goods supplied to each department are debited to a Memorandum Departmental Stock account at cost plus a 'mark up' (loading) to give the normal selling price of the goods. The sale proceeds of the department are credited in Memorandum Departmental Stock account and amount of 'Mark up' is credited to the Departmental Mark up Account. When it is necessary to reduce the selling price below the normal selling price, i.e., cost plus mark up, the reduction (mark down) is entered in the Memorandum Stock account as well as in the Mark up account. This method helps to achieve effective control of stock movements of various departments.

8. Miscellaneous Illustrations

Illustration 1

M/s Omega is a departmental store having three departments X, Y and Z. The information regarding three departments for the year ended 31st March, 2013 are given below:

	X	Y	Z
	₹	₹	₹
Opening Stock	36,000	24,000	20,000
Purchases	1,32,000	88,000	44,000
Debtors at end	15,000	10,000	10,000
Sales	1,80,000	1,35,000	90,000
Closing stock	45,000	17,500	21,000
Value of furniture in each department	20,000	20,000	10,000
Floor space occupied by each department (in sq. ft.)	3,000	2,500	2,000
Number of employees in each Department	25	20	15
Electricity consumed by each department (in units)	300	200	100

The balances of other revenue items in the books for the year are given below:

	Amount (₹)
Carriage inwards	3,000
Carriage outwards	2,700
Salaries	48,000
Advertisement	2,700
Discount allowed	2,250
Discount received	1,800
Rent, Rates and Taxes	7,500
Depreciation on furniture	1,000
Electricity expenses	3,000
Labour welfare expenses	2,400

You are required to prepare Departmental Trading and Profit and Loss Account for the year ended 31st March, 2013 after providing provision for Bad Debts at 5%.

Solution

In the Books of M/s Omega
Departmental Trading and Profit and Loss Account
for the year ended 31st March, 2013

Particulars	*Deptt.X*	*Deptt.Y*	*Deptt.Z*	*Total*	*Particulars*	*Deptt.X*	*Deptt.Y*	*Deptt.Z*	*Total*
	₹	₹	₹	₹		₹	₹	₹	₹
To Stock	36,000	24,000	20,000	80,000	By Sales	1,80,000	1,35,000	90,000	4,05,000
To Purchases	1,32,000	88,000	44,000	2,64,000	By Stock	45,000	17,500	21,000	83,500
To Carriage Inwards	1,500	1,000	500	3,000					
To Gross Profit c/d	55,500	39,500	46,500	1,41,500					
	2,25,000	1,52,500	1,11,000	4,88,500		2,25,000	1,52,500	1,11,000	4,88,500
To Carriage Outwards	1,200	900	600	2,700	By Gross Profit b/d	55,500	39,500	46,500	1,41,500
To Electricity	1,500	1,000	500	3,000	By Discount received	900	600	300	1,800
To Salaries	20,000	16,000	12,000	48,000					
To Advertisement	1,200	900	600	2,700					
To Discount allowed	1,000	750	500	2,250					
To Rent, Rates and Taxes	3,000	2,500	2,000	7,500					
To Depreciation	400	400	200	1,000					
To Provision for Bad Debts	750	500	500	1,750					
To Labour welfare expenses	1,000	800	600	2,400					
To Net Profit	26,350	16,350	29,300	72,000					
	56,400	40,100	46,800	1,43,300		56,400	40,100	46,800	1,43,300

Working Note:

Basis of allocation of expenses	
Carriage inwards	Purchases (3:2:1)
Carriage outwards	Turnover (4:3:2)
Salaries	No. of Employees (5:4:3)
Advertisement	Turnover (4:3:2)
Discount allowed	Turnover (4:3:2)
Discount received	Purchases (3:2:1)
Rent, Rates and Taxes	Floor Space occupied (6:5:4)
Depreciation on furniture	Value of furniture (2:2:1)
Labour welfare expenses	No. of Employees (5:4:3)
Electricity expense	Units consumed (3:2:1)
Provision for bad debts	Debtors balances (3:2:2)

Illustration 2

Messrs D, B and R carried on a business of Drapers and Tailors in Delhi; D was incharge of Department "A" dealing in cloth, B of department "B" for selling garments and R of Department "C" the tailoring section. It had been agreed that each of the three partners would receive 75% of the profits disclosed by the accounts of the department of which he was incharge and the balance of the combined profits would be shared in the proportion: D 1/2, B 1/4, and R 1/4. The following is the Trading and Profit and Loss Account of the firm for the six months ended March 31, 2013.

Trading and Profit and Loss Account

		₹	₹			₹	₹
To	*Opening Stock:*			*By*	*Sales :*		
	Cloth (A)	*37,890*			*Cloth (A)*	*1,80,000*	
	Ready-made Garments (B)	*24,000*			*Ready-made Garments (B)*	*1,30,000*	
	Tailoring Jobs (C)	*20,000*	*81,890*		*Tailoring Jobs (C)*	*90,000*	*4,00,000*
To	*Purchases :*			*By*	*Discount received*		*800*
	Cloth (A)	*1,40,700*		*By*	*Closing Stock:*		
	Ready-made Garments (B)	*80,600*			*Cloth (A)*	*45,100*	
	Tailoring Goods (C)	*44,400*	*2,65,700*		*Ready-made Garments (B)*	*22,300*	

To Salaries and Wages		*48,000*	*Tailoring Jobs (C)*		
To Advertising		*2,400*	*[including ₹ 5,700 for goods*		
To Rent		*10,800*	*transferred from*		
To Discount allowed		*1,200*	*department (A)]*	*21,600*	*89,000*
To Sundry Exp.		*12,000*			
To Depreciation on					
Furniture and Fittings		*750*			
To Net Profit		*67,060*			
		4,89,800			*4,89,800*

After consideration of the following, prepare (i) Departmental Trading and Profit and Loss Account and (ii) Profit and Loss Appropriation Account:

(i) Cloth of the value of ₹ 10,700 and other goods of the value of ₹ 600 were transferred at selling price by Departments A and B respectively to Department C.

(ii) Cloth and garments are sold in the show-room. Tailoring work is carried out in the workshop.

(iii) The details of salaries and wages were as follows:

(a) General Office 50%, show-room 25% and 25% for workshop, which is for tailoring.

(b) Allocate General Office Expenses, in the proportion of 3:2:1 among the Departments A, B, C.

(c) Distribute show-room expenses in the proportion of 1:2 between Departments A and B.

(iv) The workshop rent is ₹ 1,000 per month. The rent of the General Office and Show room is to be divided equally between Departments A and B.

(v) Depreciation charges are to be allocated equally amongst the three Departments.

(vi) All other expenses are to be allocated on the basis of turnover.

(vii) Discounts received are to be credited to the three Departments as follows: A: ₹ 400; B: ₹ 250; C: ₹ 150.

(viii) The opening stock of Department C does not include any goods transferred from Department A.

Solution

M/s D, B and R

Departmental Trading and Profit & Loss Account for the six months ended 31-3-2013

	A	*B*	*C*	*Total*		*A*	*B*	*C*	*Total*
To Opening Stock	37,890	24,000	20,000	81,890	By Sales	1,80,000	1,30,000	90,000	4,00,000
To Purchases	1,40,700	80,600	44,400	2,65,700	By Transfer	10,700	600	-	11,300

To	Transfer	–	-	11,300	11,300	By	Closing				
To	Wages	–	-	12,000	12,000		Stock	45,100	22,300	21,600	89,000
To	Gross profit c/d	57,210	48,300	23,900	1,29,410						
		2,35,800	1,52,900	1,11,600	5,00,300			2,35,800	1,52,900	1,11,600	5,00,300
To	Salaries & Wages:					By	Gross profit b/d	57,210	48,300	23,900	1,29,410
	General Office	12,000	8,000	4,000	24,000	By	Discount Received	400	250	150	800
	Showroom	4,000	8,000	–	12,000						
	Advertising	1,080	780	540	2,400						
To	Rent	2,400	2,400	6,000	10,800						
To	Discount Allowed	540	390	270	1,200						
To	Sundry Expenses	5,400	3,900	2,700	12,000						
To	Depreciation	250	250	250	750						
To	Net Profit c/d	31,940	24,830	10,290	67,060						
		57,610	48,550	24,050	1,30,210			57,610	48,550	24,050	1,30,210

Note: Gross profit of Department A is 30% of Sales price (including transfer to Department C).

There is some unrealised profit only on inter departmental stock. 30% of ₹ 5,700 is as stock reserve. This will be debited to Profit and Loss Appropriation Account.

Profit and Loss Appropriation Account

		₹	₹			₹
To	Stock Reserve (See Note)		1,710	By	Net Profit transfered from Profit & Loss A/c	67,060
To	D: 75% of Profit of Deptt. A	23,955				
	50% of Combined profits	7,527	31,482			
To	B : 75% of Profit of Deptt. B	18,623				
	25% of Combined profits	3,763	22,386			
To	R: 75% of Profit of Deptt. C	7,718				
	25% of Combined profits	3,764	11,482			
			67,060			67,060

Illustration 3

M/s Complex has 3 departments, A, B, C. The following information is provided:

	A	B	C
	₹	₹	₹
Opening Stock	*3,000*	*4,000*	*6,000*
Consumption of direct materials	*8,000*	*12,000*	–
Wages	*5,000*	*10,000*	–
Closing Stock	*4,000*	*14,000*	*8,000*
Sales	–	–	*34,000*

Stock of each department is valued at cost to the department concerned, Stocks of A department are transferred to B at a margin of 50% above departmental cost, Stocks of B department are transferred to C department at a margin of 10% above departmental cost. Other expenses were:

	₹
Salaries	*2,000*
Printing & Stationery	*1,000*
Rent	*6,000*
Interest paid	*4,000*
Depreciation	*3,000*

Allocate expenses in the ratio of departmental gross profit. Opening figures of reserves for unrealised profits on departmental stock were:

Department B ₹ 1,000

Department C ₹ 2,000

Prepare Departmental Trading and Profit & Loss Accounts for the year ending March 31, 2013 considering that closing stock of each department consists of only finished goods..

Solution

M/s Complex Departmental Trading and Profit & Loss Account for year ended 31-3-2013

		A	B	C	Total			A	B	C	Total
		₹	₹	₹	₹			₹	₹	₹	₹
To	Opening Stock	3,000	4,000	6,000	13,000	By	Internal transfer	18,000	33,000	-	51,000
To	Direct material					By	Sales	-	-	34,000	34,000
	consumption	8,000	12,000	-	20,000	By	Closing stock	4,000	14,000	8,000	26,000
To	Wages	5,000	10,000	-	15,000						
To	Internal transfer	-	18,000	33,000	51,000						

To	Gross Profit c/d	6,000	3,000	3,000	12,000						
		22,000	47,000	42,000	1,11,000			22,000	47,000	42,000	1,11,000
To	Salaries	1,000	500	500	2,000	By	Gross profit b/d	6,000	3,000	3,000	12,000
To	Printing & Stationery	500	250	250	1,000	By	Net Loss c/d	2,000	1,000	1,000	4,000
To	Rent	3,000	1,500	1,500	6,000						
To	Depreciation	1,500	750	750	3,000						
To	Interest paid	2,000	1,000	1,000	4,000						
		8,000	4,000	4,000	16,000			8,000	4,000	4,000	16,000
To	Net Loss b/d				4,000	By	Reserve for unrealised profit (on opening stock)				3,000
To	Reserve for unrealised profit on closing stock				3,918	By	Balance transferred to P & L A/c				4,918
					7,918						7,918

Working Notes:

Calculation of Unrealised Profit on Closing Stock:

Dept. B: Closing Stock ₹ 14,000

Cost element transferred from Deptt. A ₹ 14,000 x $\frac{18,000}{40,000}$ = ₹ 6,300

Profit added by Deptt. A ₹ 6,300 x $\frac{50}{150}$ = ₹ 2,100

Clarification: Cost increased during the current period by Deptt. B are Direct Material ₹ 12,000, Wages ₹ 10,000 and Transfer received from Deptt. A ₹ 18,000; Total ₹ 40,000.

So, cost element of Deptt. A ₹ 18,000 in closing stock is $\frac{₹\ 18,000}{₹\ 40,000}$

(FIFO formula for stock issue is assumed)

Deptt. C: Closing Stock ₹ 8,000.

Profit added by Deptt. B: ₹ 8,000 $\times \frac{10}{110}$ = ₹ 727

Cost element from Deptt. A:

(₹ 8,000 - ₹ 727) $\times \frac{₹\ 18,000}{₹\ 40,000}$ = ₹ 3,273

Profit added by Deptt. A: ₹ 3,273 $\times \frac{50}{150}$ = ₹ 1,091

₹ 1,818

Total Unrealised Profit: ₹ 2,100 + ₹ 1,818 = ₹ 3,918

Illustration 4

M/s X has two departments, A and B. From the following particulars prepare the consolidated Trading Account and Departmental Trading Account for the year ending 31st December, 2012:

	A	B
	₹	₹
Opening Stock (at cost)	*20,000*	*12,000*
Purchases	*92,000*	*68,000*
Sales	*1,40,000*	*1,12,000*
Wages	*12,000*	*8,000*
Carriage	*2,000*	*2,000*
Closing Stock:		
(i) Purchased goods	*4,500*	*6,000*
(ii) Finished goods	*24,000*	*14,000*
Purchased goods transferred:		
by B to A	*10,000*	
by A to B		*8,000*
Finished goods transferred:		
by A to B	*35,000*	
by B to A		*40,000*
Return of finished goods:		
by A to B	*10,000*	
by B to A		*7,000*

You are informed that purchased goods have been transferred mutually at their respective departmental purchase cost and finished goods at departmental market price and that 20% of the finished stock (closing) at each department represented finished goods received from the other department.

Solution

M/s X

Departmental Trading A/c for the year ending 31st December, 2012

	Deptt. A. ₹	Deptt. B ₹		Deptt. A ₹	Deptt. B ₹
To Stock	20,000	12,000	By Sales	1,40,000	1,12,000
To Purchases	92,000	68,000	By Purchased Goods transferred	8,000	10,000

To Wages	12,000	8,000	By	Finished goods transferred	35,000	40,000
To Carriage	2,000	2,000		Return of finished Goods	10,000	7,000
To Purchased Goods			By	Closing Stock:		
To transferred	10,000	8,000		Purchased Goods	4,500	6,000
To F.G. transferred	40,000	35,000		Finished Goods	24,000	14,000
To Ret. of finished Goods	7,000	10,000				
To Gross profit c/d	38,500	46,000				
To	2,21,500	1,89,000			2,21,500	1,89,000

Consolidated Trading Account for the year ending 31st December, 2012

	₹		₹
To Opening Stock	32,000	By Sales	2,52,000
To Purchases	1,60,000	By Closing Stock:	
To Wages	20,000	Purchased Goods	10,500
To Carriage	4,000	Finished Goods	38,000
To Stock Reserve	2,196		
To Gross Profit c/d	82,304		
	3,00,500		3,00,500

Working note:

	Deptt. A	Deptt. B
Closing Stock out of transfer	4,800	2,800
Sale	1,40,000	1,12,000
Add : Transfer	35,000	40,000
	1,75,000	1,52,000
Less: Returns	(7,000)	(10,000)
Net Sales plus Transfer	1,68,000	1,42,000

Rate of Gross profit $\frac{38{,}500}{1{,}68{,}000} \times 100 = 22.916\%$ $\qquad \frac{46{,}000}{1{,}42{,}000} \times 100 = 32.394\%$

Unrealised Profit $\quad 4{,}800 \times 32.394\% = 1{,}555 \qquad 2{,}800 \times 22.916\% = 641$

Illustration 5

M/s Alpha , has a factory with two manufacturing departments 'X' and 'Y'. Part of the output of department X is transferred to department Y for further processing and the balance is directly

transferred to selling department. The entire production of department Y is directly transferred to the selling department. Inter-departmental stock transfers are made as follows:

X department to Y department at 33-1/3% over departmental cost.

X department to selling department at 50% over departmental cost.

Y department to selling department at 25% over departmental cost.

The following information is given for the year ending 31st March,2013.

	Department X		Department Y		Selling Department	
	Units	₹	Units	₹	Units	₹
Opening stock						
Finished Goods	60	60,000	20	40,000	50	1,28,000
Raw materials	–	–	–	–	–	–
Raw material consumed	–	1,82,000	–	20,000	–	–
Labour charges	–	70,000	–	32,000	–	–
Sales	–	–	–	–	120	4,80,000
Closing stock						
Finished Goods	40	–	50	–	60	–

Out of the total transfer by X department 30 units were transferred to selling department, while the remaining to department Y. Per unit material and labour consumption of X department on production to be transferred directly to the selling department is 300 per cent of the labour and material consumption on units transferred to Y department. General Administration expenses ₹1,80,000.

Prepare Departmental Profit and Loss Account and General Profit and Loss Account.

Solution

Departmental Profit and Loss Account for the year ended 31-3-2013

	X Deptt.		Y Deptt.		Selling Deptt.			X Deptt.		Y Deptt.		Selling Deptt	
	Qty	Amount ₹	Qty	Amount ₹	Qty	Amount ₹		Qty	Amount ₹	Qty	Amount ₹	Qty	Amount ₹
To Opening Stock	60	60,000	20	40,000	50	1,28,000	By Stock transfer	160	3,70,000	100	2,50,000	–	–
To Raw Material							By Sales	–	–	–	–	120	4,80,000
consumption &	140	1,82,000	–	20,000	–	–	By Closing						
Units produced						–	Stock	40	48,000	50	1,00,000	60	1,80,000
To Labour Charges		70,000		32,000									
To Stock Transfered													

from X Deptt.	-	-	130	2,08,000	30	1,62,000							
To Stock transfered													
from Y Deptt.					100	2,50,000							
To Departmental Profit transfered to General P & L A/c	–	1,06,000	–	50,000	–	1,20,000							
	200	4,18,000	150	3,50,000	180	6,60,000		200	4,18,000	150	3,50,000	180	6,60,000

General Profit and Loss Account

		₹			₹
To	General Expenses	1,80,000	By	Profit transferred from	
To	Stock Reserve for			X Deptt.	1,06,000
	Closing Stock:			Y Deptt.	50,000
	on Deptt. Y	12,000		Selling Deptt.	1,20,000
	on Selling Deptt.	18,175			
To	Net Profit	65,825			
		2,76,000			2,76,000

Working Notes:

(1) Calculation of units produced by Department X

	Selling Deptt. Units	*Deptt. Y Units*	*Deptt. X Units*
Sales	120	–	–
Transfer to Selling Deptt.	–	100	30
Transfer to X Deptt.	–	–	–
Transfer to Y Deptt.	–	–	130
Closing Stock	60	50	40
	180	150	200
Opening Stock	50	20	60
Transfer from X Deptt.	30	130	–
Transfer from Y Deptt. (balancing figure)	100	–	–
Production during year (balancing figure)			140
	180	150	200

(2) Cost of Production and Transfer price

Department: X	*Units*	₹
Cost of output including opening stock		3,12,000
Transfer to selling department		
30 Units : Equivalent units	90	
Transfer to Y Department	130	
Closing Stock	40	
	260	

Cost of goods transferred to selling Department = ₹ $\frac{3,12,000}{260}$ × 90 = ₹ 1,08,000

Transfer Price i.e. Cost plus 50%: (₹ 1,08,000 + 50% of ₹ 1,08,000)	1,62,000

Cost of goods transferred to Department Y: ₹ $\frac{3,12,000}{260} \times 130$ = ₹ 1,56,000

Transfer price: Cost plus 33-1/3% i.e.(₹ 1,56,000 + 33-1/3% of ₹ 1,56,000)=	2,08,000
Total Transfer	3,70,000

Department Y		₹
Total cost of output		3,00,000
Total output	150 units	
Cost per unit		2,000
Cost of transfer to selling Deptt.	100 units	2,00,000
Transfer Price: Cost plus 25%		2,50,000

(3) Calculation of Closing Stock

		₹
Deptt. X	$\frac{₹\ 3,12,000}{260} \times 40$	48,000
Deptt. Y	$\frac{₹\ 3,00,000}{150} \times 50$	1,00,000

Selling Deptt (Closing Stock 60 units)	Units	₹	
Opening Stock	50	1,28,000	
Transfer from Deptt. X	30	1,62,000	
Transfer from Deptt. Y	100	2,50,000	
	180	5,40,000	
Average Cost		3,000	1,80,000

(4) Calculation of unrealised profit on stock

Deptt. Y: Increase in Stock (₹ 1,00,000 — ₹ 40,000) = ₹ 60,000

	₹
Cost element of Deptt. X	2,08,000
Cost of Deptt. Y	52,000
Total Cost excluding Value of the Opening Stock:	2,60,000

Proportion: $\frac{₹\ 2,08,000}{₹\ 2,60,000}$

Unrealised Profit: $₹\ 60,000 \times \frac{2,08,000}{2,60,000} \times \frac{1}{4} = ₹\ 12,000$

Selling Deptt.: Increase in Stock (₹ 1,80,000 — ₹ 1,28,000) = ₹ 52,000

Total transfer from two departments = ₹ 4,12,000

Proportion of Deptt. X $\frac{₹1,62,000}{₹4,12,000}$

Proportion of Deptt. Y $\frac{2,50,000}{4,12,000}$

Output of Deptt. X in increase in Stock $₹\ 52,000 \times \frac{1,62,000}{4,12,000} = ₹\ 20,447$

Output of Deptt. Y in increase in Stock $₹\ 52,000 \times \frac{2,50,000}{4,12,000} = ₹\ 31,553$

Profit loaded by Deptt. Y $₹\ 31,553 \times \frac{1}{5} =$	₹ 6,311
Profit loaded by Deptt. X	
For transfer from Deptt. Y (₹ 31,553 - ₹ 6,311) $\times \frac{2,08,000}{2,60,000} \times \frac{1}{4} =$	₹ 5,048
For Direct Transfer $₹\ 20,447 \times \frac{1}{3}$	₹ 6,816
	₹ 18,175

Illustration 6

Gram Udyog, a retail store, has two departments, 'Khadi and Silks' for each of which stock account and memorandum 'mark up' accounts are kept. All the goods supplied to each department are debited to the stock account at cost plus a 'mark up', which together make-up the selling-price of the goods and in the account of the sale proceeds of the goods are credited. The amount of 'mark-up' is credited to the Departmental Mark up Account. If the selling price of any goods is reduced below its normal selling price, the reduction 'marked down' is adjusted both in the Stock Account and the Departmental 'Mark up' Account. The rate

of 'Mark up' for Khadi Department is 33-1/3% of the cost and for Silks Department it is 50% of the cost.

The following figures have been taken from the books for the year ended December 31,2012:

	Khadi Deptt.	Silks Deptt.
	₹	₹
Stock as on January 1st at cost	10,500	18,600
Purchases	75,900	93,400
Sales	95,600	1,25,000

(1) The stock of Khadi on January 1, 2012 included goods the selling price of which had been marked down by ₹ 1,260. These goods were sold during the year at the reduced prices.

(2) Certain stock of the value of ₹ 6,900 purchased for the Khadi Department were later in the year transferred to the Silks department and sold for ₹ 10,350. As a result though cost of the goods is included in the Khadi Department the sale proceeds have been credited to the Silks Department.

(3) During the year 2012 to promote sales the goods were marked down as follows :

	Cost	Marked down
	₹	₹
Khadi	5,600	360
Silk	10,000	2,000

All the goods marked down, were sold except Silks of the value of ₹ 5,000 marked down by ₹ 1,000.

(4) At the time of stock-taking on December 31, 2012 it was discovered that Khadi cloth of the cost of ₹ 390 was missing and it was decided that the amount be written off.

You are required to prepare for both the departments for the year 2012.

(a) The Memorandum Stock Account; and

(b) The Memorandum Mark up Account.

Solution

Silk Stock Account

2012		₹	2012	₹
To Balance b/d			By Sales A/c	1,25,000
To Cost	18,600		By Mark-up A/c	2,000
Mark-up	9,300	27,900	By Balance c/d	51,350
To Purchases	93,400			
Mark-up	46,700	1,40,100		

To Khadi A/c	6,900			
Mark-up	3,450	10,350		
		1,78,350		1,78,350

Silk Mark-up Account

2012	₹	*2012*	₹
To Stock A/c	2,000	By Balance b/d	9,300
To Profit & Loss A/c	41,000	By Stock A/c	46,700
To Balance c/d [(1/3 of 52,350) – 1,000]	16,450	By Stock A/c	3,450
	59,450		59,450

Working Notes:

Verification of Profit

	₹
Sales	1,25,000
Add : Mark down in goods sold	1,000
	1,26,000
Gross Profit 1/3	42,000
Less : Mark down	(1,000)
Gross profit as per books	41,000

Khadi Stock Account

2012			₹	₹	*2012*			₹	₹
	To	Balance b/d (10,500+2,240)		12,740		By	Sales		95,600
	To	Purchases	75,900				Silk Deptt.	6,900	
		Markup	25,300	1,01,200			Mark-up A/c	2,300	9,200
						By	Loss of stock A/c	390	
							Mark-up A/c	130	520
						By	Mark-up A/c		360
						By	Balance c/d		8,260
				1,13,940					1,13,940

Khadi Mark-up Account

2012			₹	*2012*			₹
	To	Stock A/c (transfer)	2,300		By	Balance b/d	
	To	Stock A/c (re-sale)	130			(3,500 – 1,260)	2,240
	To	Stock A/c (mark down)	360		By	Stock A/c	25,300
	To	Profit & Loss A/c	22,685				
	To	Balance (1/4 of ₹ 8,260)	2,065				
			27,540				27,540

Working Note:

Verification of Profit	₹
Sales as per books	95,600
Add : Mark-down (1,260+360)	1,620
	97,220
Gross Profit on fixed selling price @ 25% on ₹ 97,220	24,305
Less : Mark down	(1,620)
	22,685

Illustration 7

Department P sells goods to Department S at a profit of 25% on cost and to Department Q at a profit of 15% on cost. Department S sells goods to P and Q at a profit of 20% and 30% on sales respectively. Department Q sells goods to P and S at 20% and 10% profit on cost respectively.

Departmental Managers are entitled to 10% commission on net profit subject to unrealized profit on departmental sales being eliminated. Departmental profits after charging Manager's commission, but before adjustment of unrealized profits are as below:

	₹
Department P	*90,000*
Department S	*60,000*
Department Q	*45,000*

Stock lying at different Departments at the end of the year are as below:

			Figures in ₹
	DEPARTMENTS		
	P	*S*	*Q*
Transfer from P	-	*18,000*	*14,000*
Transfer from S	*48,000*	-	*38,000*
Transfer from Q	*12,000*	*8,000*	-

Find out correct Departmental Profits after charging Managers' Commission.

Solution

Calculation of correct Departmental Profits

	Department P (₹)	*Department S (₹)*	*Department Q (₹)*
Profit after charging Manager's Commission	90,000	60,000	45,000

Add: Manager's Commission (1/9)	10,000	6,667	5,000
	1,00,000	66,667	50,000
Less: Unrealised profit on Stock (WN)	(5,426)	(21,000)	(2,727)
Profit Before Manager's Commission	94,574	45,667	47,273
Less: Manager's Commission 10%	(9,457)	(4,567)	(4,727)
Correct Profit after Manager's Commission	85,117	41,100	42,546

Working Notes:

	Department P (₹)	*Department S* (₹)	*Department Q* (₹)	*Total* (₹)
Unrealized Profit of:				
Department P	-	25/125X18,000 =3,600	15/115X14,000 =1,826	5,426
Department S	20/100X48,000 =9,600	-	30/100X38,000 =11,400	21,000
Department Q	20/120X12,000 =2,000	10/110X8,000 =727		2,727

Summary

- Aspects of Departmental Accounting
  - (i) Computation of unrealized profit if inter-department transfers form part of closing inventory.
  - (ii) Preparation of departmental trading and profit and loss account.
  - (iii) Monitoring inventory movements with help of memorandum mark-up account.
- Methods of maintaining departmental accounts

  There are two methods of keeping departmental accounts:
  - (i) When accounts of all departments are kept at in one book only
  - (ii) When separate set of books are kept for each department.
- Departments are classified into two types: (i) Dependent departments and (ii) Independent departments.
- Basis of allocation of departmental expenses:

S.No.	*Expenses*	*Basis*
1.	Rent, rates and taxes, repairs and	Floor area occupied by each department (if

	maintenance, insurance of building	given) other wise on time basis
2.	Lighting and Heating expenses	Consumption of energy by each department
3.	Selling expenses,	Sales of each department
4.	Carriage inward/ Discount received	Purchases of each department
5.	Wages/Salaries	Time devoted to each department
6.	Maintenance of capital assets	Value of assets of each department otherwise on time basis
7.	Administrative expenses	Time basis or equally among all departments

- There are certain expenses and income, most being of financial nature, which cannot be apportioned on a suitable basis; therefore they are recognised in the combined Profit and Loss Account for example- interest on loan, profit/loss on sale of investment etc.
- Goods and services may be charged by one department to another usually on any of the three basis: (i)Cost, (ii) Ruling market price,(iii) Cost plus percentage of profit.
- When profit is added in the inter-departmental transfers the loading included in the unsold stock at the end of the year is to be excluded before final accounts are prepared so as to eliminate any anticipatory profit included therein. This is done by creating an appropriate stock reserve by debiting the combined Profit and Loss Account.